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JAPAN'S HIGH SAVING RATE: AN OVERVIEW

Summary

Japan's rate of saving, despite a modest decline since the first oil shock, remains high by international standards. While this high level is credited with playing a crucial role in Japan's economic development, it has been criticized as the underlying cause of its huge trade surplus. Abundant household saving, exceeding business investment and the government budget deficit, has led to large capital outflows, reducing the value of the yen and increasing Tokyo's trade surplus.

The rise in Japan's saving rate from low levels following World War II is a result of rising income and demographic changes. The high cost of housing is another factor. Moreover, the tax system encourages saving, in contrast to the United States, where it favors consumption.

Introduction

Japan's gross saving as a percentage of gross domestic product rose during the 1960s, peaking at 40.2 percent in 1970 (see Table 1). Although the level has fallen since the first oil shock, the 1983 rate of 30.3 percent was more than 50 percent above the average for the 24 member countries of the Organization for Economic Cooperation and Development and about double the U.S. figure of 15.2 percent. According to Henry Rosovsky of Harvard University, "Both as individuals and as a nation, the Japanese have demonstrated an unusual willingness to forego present consumption for larger or more important benefits in the future."

Table 1: Gross Saving as a Percentage of GDP

	1965	1970	1975	1980	1981	1982	1983
United States	21.0%	18.1%	17.4%	18.3%	19.0%	15.9%	15.2%
Japan	31.9	40.2	32.2	31.9	31.7	30.8	30.3
Germany	27.2	28.1	20.8	22.3	20.7	20.9	21.8
France	25.7	26.2	23.0	22.2	19.8	18.6	18.6
United Kingdom	20.2	22.1	15.9	18.5	17.5	18.6	18.1
Italy	23.6	24.2	20.1	22.5	19.0	18.5	17.5
Canada	23.0	21.2	21.1	22.9	22.4	19.0	19.2
Average for above countries	22.9	23.0	20.8	21.9	21.5	19.6	19.2
Average for all OECD countries	23.2	23.4	21.2	21.8	21.4	19.6	19.3

Source: Organization for Economic Cooperation and Development, Economic Outlook, June 1985.

Business investment in Japan increased by an average annual real rate of 14.4 percent between 1952 and 1973. By financing this extraordinarily high level of capital formation, Japan's saving rate played a key role in the country's postwar economic growth. During the past 20 years, gross fixed capital formation averaged 32.3 percent of GDP in Japan, compared to the OECD average of 21.5 percent and a U.S. share of only 18.1 percent.

There is no evidence that the saving differential between Japan and the United States is narrowing. According to a July 1985 Bank of Japan survey, household saving was up 6.5 percent over a year ago, despite an increase of only 1.6 percent in take-home income. In contrast, U.S. personal saving as a share of disposable income fell to 1.9 percent in September 1985, an all-time low. The U.S. saving rate for the third quarter of 1985 was 2.9 percent, less than one-half the level of the past 10 years.

As Japan's trade surplus has grown, Western critics have zeroed in on the high saving rate, arguing that it contributes to the large capital flows that have weakened the yen. By restraining domestic demand, household saving has slowed imports and forced producers to concentrate on exports, this argument goes. The high rate of household saving is also blamed for increasing the government's budget deficit and lowering the country's standard of living.

Historical Overview

Japan's saving rate has not always been high; net national saving as a share of GNP is estimated to have been only 3.4 percent during the period 1887 to 1906. Moreover, Japan borrowed little from overseas, wary of following China's example by relying on foreign capital. But domestic saving rose in

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step with investment during the prewar years, reaching 9.7 percent of GNP from 1927 to 1936, and financed the investment spurts responsible for Japan's accelerating growth rate.

Saving rates were low after the war, as real income was reduced to a near-subsistence level. Once inflation was brought under control in 1951 and real income began to rise, savings rose steadily (see Table 2). Households saved to restore their financial position, which had been reduced by inflation following the war, and the business sector saved to rebuild the capital stock, which was small relative to both the United States and the prewar level. While the rate was expected to level off once the economy returned to its prewar position, it unexpectedly continued to rise during the 1960s, although at a slower pace.

Table 2: Japan's Saving and Investment, 1952-69

	Gross Private Saving*			Household Saving**	Gross Private Investment*
	Total	Corporate	Household		
1952-54	16.5%	7.4%	9.1%	9.2%	17.2%
1955-57	22.8	9.2	13.5	14.2	21.8
1958-60	24.9	11.0	13.9	16.4	24.3
1961-63	27.2	12.6	14.6	18.6	27.2
1964-66	26.6	12.5	14.1	17.2	25.5
1967-69	30.6	14.9	15.8	19.3	29.9

*As a percentage of GNP.
**As a percentage of disposable income.

Sources: Edward F. Denison and William K. Chung, "Economic Growth and Its Sources," in Asia's New Giant (Washington, D.C.: The Brookings Institution, 1976), p. 117; Economic Planning Agency, Annual Reports on National Accounts.

Table 3 shows saving by sector based on national income and product accounts data. Household saving has declined by almost one-fourth since the first oil shock, but remains at a high level. Business investment, which fell sharply at the same time, has stabilized at about 20 percent of GNP. The government, which, prior to 1973, contributed importantly to total saving by collecting more taxes than it spent on public consumption, ran increasing deficits during the second half of the 1970s. The increasing burden of government debt has led Tokyo to adopt a policy of reduced growth in government spending since 1979.

It can be shown using national accounting identities that a nation's current account balance equals the difference between domestic saving and investment (see JEI Report No. 35A, September 13, 1985). When domestic investment and the government budget deficit do not absorb private saving, the excess is invested overseas. That capital outflow must be offset by a

Table 3: Japan's Saving-Investment Balance

(percent of GNP)

A. Saving and Investment

	FY 1970	FY 1975	FY 1976	FY 1977	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983
1. Household Saving	12.0%	16.7%	15.9%	15.6%	14.3%	13.7%	13.9%	14.1%	12.5%	12.7%
2. Private Investment	30.7	23.4	22.9	21.4	21.4	23.1	22.9	21.9	21.1	20.1
3. Government Balance	1.9	-3.6	-3.5	-4.1	-4.1	-4.4	-4.0	-3.7	-3.5	-3.0
a. Central Government	0.0	-4.0	-4.3	-5.0	-4.9	-5.7	-5.5	-5.4	-5.4	-5.0
b. Social Security	2.3	2.5	2.4	2.8	2.5	2.7	2.8	2.9	2.9	2.7
c. Local Government	-0.4	-2.2	-1.6	-1.8	-1.7	-1.4	-1.3	-1.3	-1.0	-0.7

B. Net Lending and Current Account by Sector

1. Household Sector	8.2	10.8	10.0	10.0	8.7	8.8	10.4	11.4	9.6	10.8
2. Corporate Sector	-8.2	-8.0	-6.0	-4.7	-3.8	-5.9	-6.9	-7.2	-5.7	-5.4
3. Private Balance (1-2)	0.0	2.8	4.0	5.3	4.9	2.9	3.4	4.1	3.9	5.3
4. Government Balance	1.9	-3.6	-3.5	-4.1	-4.1	-4.4	-4.0	-3.7	-3.5	-3.0
5. Total Balance (3+4)	1.8	-0.8	0.5	1.2	0.8	-1.5	-0.6	0.4	0.4	2.3
6. Current Account	1.2	0.1	0.9	1.9	1.3	-1.3	-0.5	0.7	1.0	2.2

Source: Economic Planning Agency, Annual Report on National Accounts, 1985

corresponding current account surplus. A current account deficit occurs when domestic investment and the government deficit exceed private saving. The shortage of domestic saving is offset by an inflow of capital from abroad that matches the current account deficit.

Table 3 also shows net lending -- saving minus investment -- by sector. The household sector remains a net creditor to the rest of the economy. Prior to the first oil shock, the large pool of surplus savings generated by households was absorbed by the business sector. As growth decelerated after 1973 and investment and net borrowing by the business sector declined, the government absorbed the surplus savings of the household sector. Its policy of fiscal austerity since 1979, in the face of continued high household saving and stable investment, has contributed to a substantial excess of domestic saving, leading to capital outflows, an undervalued yen and large trade surpluses.

In contrast, the United States has had an extremely expansionary fiscal policy since its last current account surplus in 1981. The increase in the total government deficit to 3.4 percent of GNP in 1984, combined with a recovery in private investment to 1978-79 levels and continued low personal saving of 4.3 percent, has resulted in a current account deficit equal to 2.8 percent of GNP.

Business Saving

Although it has received less attention, the saving performance of Japan's corporations has also been impressive. Business saving, which consists of retained profits and depreciation, doubled from 7.4 percent of GNP in the 1952-54 period to 14.9 percent by 1967-69. The rapid growth of Japan's economy in the 1950s and 1960s, the rise in the price of labor relative to the price of capital, and repeated reductions in corporate tax rates encouraged firms to save and invest. In 1971, Japan's ratio of capital to labor inputs was 3.5 times larger than in 1953.

In 1970, the business sector's savings in Japan were substantially higher than the United States'. The differential can be attributed in part to lower corporate tax rates, equivalent to about one-third of pretax profits, and smaller dividend payments in Japan. The gap between business saving in the two countries has been reduced in recent years, as the deceleration of economic growth since 1974 has substantially weakened the incentive to invest in Japan. Moreover, the corporate tax burden has increased in Japan and declined in the United States. According to Nihon Keizai Shimbun, the corporate tax burden in FY 1984 rose to 55.6 percent of pretax profits in Japan compared to 37.4 percent in the United States.

Household Saving

The role of the household sector in providing abundant and inexpensive capital to the industrial sector is often cited as a key factor in Japan's postwar economic development. Household saving has been extraordinary, both in terms of its rapid increase since the 1950s and its remarkably high rate.

Table 4 compares personal saving as a share of disposable personal income (personal income minus tax payments) for four countries. The rate in Japan is about 3.5 times higher than in the United States and substantially

above the figures for the United Kingdom and Germany. In contrast to the United States, Japan's household saving accounts for a larger proportion of total saving and its share is rising. Comparing 1970-72 to 1981-83, household saving as a share of gross private saving rose from 37 percent to 48 percent in Japan, while the same ratio in the United States fell from 32 percent to 25 percent.

Table 4: Personal Saving as a Percentage of Disposable Income

	United States	Japan	Germany	United Kingdom
1970	8.0%	18.2%	14.6%	9.3%
1979	5.9	18.7	13.9	14.1
1980	6.0	19.2	14.2	15.2
1981	6.7	19.7	14.9	13.5
1982	6.2	17.6	14.2	12.9
1983	5.0	17.3	12.7	10.9

Source: Department of Commerce, International Economic Indicators

Some observers have attributed the high saving rate to the Japanese cultural heritage, which encouraged nonmaterial values and slowed the rise in consumer expectations. In modern postwar Japan, however, saving rates are far greater than those recorded in the prewar years, casting doubt on the validity of cultural characteristics as an explanation.

The rapid growth of the economy is regarded as both a consequence and a cause of Japan's high saving rate. The "virtuous circle" of saving and investment leading to higher levels of income led in turn to a further increase in saving. While the rise in income from subsistence levels following the war permitted households to increase their rate of saving in the early 1950s, it is less clear why consumers would continue to raise the percentage of income saved once income had regained prewar levels. In the United States, for example, the rate of saving has been constant over time despite rising incomes.

The most common explanation is that there is a lag in the adjustment of consumption to higher levels of disposable income. Saving decisions are thought to be based on consumers' perceptions of their "permanent income," which they systematically underestimate under conditions of rapid growth. This hypothesis, however, seems implausible, given the high saving rate during the deceleration of income growth in the late 1970s. Theories that attribute the high saving rate to the slowness of consumption to adjust to income changes treat saving as passively determined. Given the important motives for saving, it may be that saving takes priority in household decisions and consumption is determined as a residual.

According to the explanation of consumer behavior developed by the Nobel laureate economist Franco Modigliani, demographic factors have a major impact on saving rates. The life-cycle theory postulates that people save in their

middle years to repay debt and provide for retirement, and dissave in their later years. The assumption that income is relatively low at the beginning and end of a person's life and high during the middle correctly describes Japan's seniority wage system, under which workers enjoy a steady increase in wages until they retire at the age of 55 or 60, and then experience a sharp drop in income. The life-cycle theory also assumes that individuals prefer a stable or slightly increasing level of consumption, leading them to save during their high-income years to support consumption later on.

Japanese statistics showing households headed by persons 60 and above with high saving rates appear to contradict the life-cycle theory, but this result is due to other factors, such as a smaller than average number of household members and a greater than average number of earners, both of which tend to increase saving. Tuvia Blumenthal, in Savings in Postwar Japan, showed that the effect of age, holding other factors constant, is to increase saving up to age 45 and to decrease it past age 55.

Because Japan's postwar population growth has been slow relative to prewar years, there are relatively few children and older persons compared to the number of working-age people (see Table 5). The ratio of children and older persons to the working-age population fell steadily from 1950 to 1970, a decline that raised the saving rate. Since 1970, the ratio has risen modestly, helping to explain the small decline in household saving since the first oil shock.

Table 5: Demographic Change in Japan

(population in millions)

	Young (1-14)	Productive Age (15-64)	Aged (over 65)	Dependency Ratio*
1930	23.6	37.8	3.1	70.5
1940	26.4	43.3	3.5	69.0
1950	29.4	49.7	4.1	67.5
1955	29.8	54.7	4.7	63.1
1960	28.1	60.0	5.3	55.7
1965	25.2	66.9	6.2	46.8
1970	24.8	71.6	7.3	44.9
1975	27.2	75.8	8.9	47.6
1980	27.5	78.8	10.6	48.4
1981	27.6	79.3	11.0	48.7
1982	27.3	80.1	11.3	48.2
1983	26.9	80.9	11.7	47.7

*The dependency ratio equals the sum of the young and the aged divided by the productive age population.

Source: Management and Coordination Bureau, Japan Statistical Yearbook 1984

The nation's demographic transition is reflected in the declining size of the average household. Blumenthal's research suggested a significant inverse relationship between a household's rate of saving and the number of members. The average household fell sharply from 4.97 persons in 1950 to 3.69 in 1970 and 3.33 in 1980. While a larger number of children encourages saving for education and marriage, it also increases consumption.

In addition to the low birth rate, the trend toward nuclear families has lowered the average household size. According to Japanese custom, the first son is obliged to support his parents in their old age and he expects to be supported in turn by his children. The percentage of families living without parents, however, rose from 63 percent in 1960 to 71 percent in 1970 and 75 percent in 1980. This increase has encouraged saving since more people must depend on their own resources rather than on their children's. It is not surprising that the generation now reaching retirement age is frugal, since this group generally fulfilled the obligation to support one's parents but cannot expect to be supported by its children. The increase in the proportion of nuclear families has also been a result of the migration from farming, where families traditionally consisted of three generations. The proportion of the labor force engaged in agriculture and forestry fell from almost one-half in 1950 to 16 percent in 1970 and 10 percent in 1980.

The life-cycle theory postulates that the expected duration of an individual's retirement and the level of consumption planned determine his level of saving. Thus, the increase in life expectancy has encouraged workers to save more to provide for a longer retirement. Life expectancy in Japan in 1947 was only 50 years for men and 54 years for women; by 1983, it had increased to 74.5 years for men and 80.2 years for women, the highest in the world. The depreciation of financial assets caused by inflation in the 1970s also encouraged saving. Households had to increase their saving rate to maintain the desired real standard of living in retirement.

In the past, Japan's high saving rate was attributed to the absence of social security. Given the importance of retirement as a motive for saving, it was expected that the development of a social security system in Japan would reduce the saving rate. Japan's household saving rate remains high, however, despite the establishment of the Employees' Pension Insurance system, which pays liberal benefits, roughly comparable to this country's. The system pays the equivalent of about 60 percent of a worker's salary, commencing at age 60 for men and 55 for women. With about 10 workers paying into the pension fund for every recipient, the system is accumulating substantial reserves.

Given the many economic, demographic and cultural changes in Japan during the past 30 years, it is difficult to isolate the effect of the social security system on the rate of saving. It is unlikely, though, to have had a major impact for several reasons. Many of the lifetime employment jobs at major companies still end at the age of 55, forcing workers to save for the five-year period prior to their pension eligibility. Moreover, given the rapid aging of Japan's population, many question the viability of the present system. The share of the population 65 and over is expected to reach 16 percent by the year 2000 and climb to 22 percent -- the highest in the world -- in 2020. Two government economists have estimated that the pension fund will be exhausted by the year 2008. To maintain the current level of benefits,

contributions (shared equally by employer and employee) will have to rise to 40 percent of income.

The demographic factors that have increased the level of saving in Japan have reduced it in the United States. Because of this country's postwar baby boom, there are a large number of consumers in the prime borrowing age group (aged 25 to 45) relative to the number in the prime saving group (aged 45 to 65). The U.S. saving rate peaked at just over 8 percent in the early 1970s when the ratio of prime savers to prime borrowers was highest.

Why Is Japan's Saving Rate Higher Than the United States'?

Including spending on consumer durables, which some economists consider a form of saving, in household saving, reduces the difference between the two countries' saving rates. From 1970 to 1981, for example, U.S. households devoted 2.5 times as much of their income to consumer durables as Japanese households. But no matter how consumer durables are treated, the fact remains that Japan's household saving rate is much higher than this country's.

Nearly every Japanese characteristic that differs from other countries has been offered as an explanation of this phenomenon. According to government surveys, the major motives for saving money are unexpected disaster, children's education and marriage, provision for old age and housing. Saving by households for the above reasons, however, does not necessarily imply that the saving rate for the household sector as a whole will be higher. Strong saving motives imply equally strong dissaving when households spend for the intended purpose.

Government surveys show that families have higher saving rates before their children enter high school and sharply lower and sometimes negative rates while their children are in high school and college. Charles Horioka, in Household Saving in Japan: The Importance of Target Saving for Education and Housing, showed that aggregate saving for education has been positive in the postwar years due to population growth, rising education costs and an increase in the college entrance rate. But he estimated that saving for education accounts for less than 4 percent of total household saving and that its importance has been declining for the past 10 years.

The purchase of a home is an important motive for saving. Government surveys indicate that the sooner a household intends to purchase a home, the higher its saving rate and that families owning homes save a smaller share of income. Prof. Horioka estimated that aggregate housing-related saving accounts for 41 percent of total household saving, although saving for this purpose cannot explain trends in the rate of saving over time. In a separate study, Bank of Japan economist Kazuhiko Nagato estimated that greater Japanese saving for housing accounted for about 40 percent of the saving rate differential between Japan and the United States.

For a number of reasons -- a mass migration to the cities, an increase in the number of households as a result of population growth, and the trend toward nuclear families, there was a shortage of housing following the war. The inadequacy of much of the existing housing stock produced a strong demand

for new housing as real income rose. Moreover, the rapid rise in land and housing prices greatly increased the amount of money required to purchase a home.

The price of housing obviously reflects the high population density of Japan, which is about 13 times greater than that of the United States. Although Japan is only 4 percent as large as this country, the total value of land in the two countries is nearly equal. The government's land taxation, zoning and construction policies further constrain the supply of housing. For example, low real estate taxes on farmland keep valuable tracts in agricultural use, aggravating the shortage of real estate for housing. Almost 15 percent of the land in Japan is used for agricultural purposes, compared to the 3.8 percent that is in residential use.

Reflecting the high price of land, the average Japanese home in 1983 cost 7.9 times average annual income. Down payments, which must be large to make the monthly loan repayments affordable, are equal to about three times average annual income. Moreover, interest payments on home mortgages are not tax deductible. All of this gives young families a great incentive to save for a down payment. As a result, the median age of a first-time home buyer in Japan is 40 years, compared to 30 years in the United States.

Japan's higher saving rate cannot be attributed to a lower tax burden. According to the OECD, Japan's total tax burden at the end of 1983 stood at 28 percent of GDP, only one percentage point less than the U.S. figure. But the tax system does have an important effect on saving behavior: in Japan it is structured to encourage saving, while in the United States it promotes consumption. Interest on savings accounts of up to Y14 million ($70,000 at current exchange rates) is tax-exempt in Japan, and capital gains taxes are also low. On the other hand, consumer loans are scarce as well as expensive, and interest payments are not tax deductible. Consumer loans other than home mortgages account for only 1 percent of total bank lending. In the United States, by contrast, interest earned on savings accounts is taxable, while interest paid on loans is deductible. For taxpayers in the 50 percent bracket, a loan carrying an interest rate of 10 percent has an after-tax cost of 5 percent.

Government regulations in Japan have kept interest rates on saving deposits low, which has two opposing effects on the rate of saving. First, it discourages saving by raising the price of future income. But perhaps more importantly, it has made consumers save more to meet their personal goals.

There are many more cultural and institutional factors that have been suggested as explanations for Japan's saving behavior. One of the most convincing is that the years of deprivation during the war made the Japanese more willing to save for the future. Another is that the longer work week in Japan limits recreation and discourages consumption of leisure-related goods. The average Japanese works 42.5 hours a week compared with the U.S. worker's 37.5-hour week.

Conclusion and Outlook

The rise in Japan's household saving rate resulted primarily from demographic changes and efforts of families to rebuild their financial assets

following World War II. Due to rapid population changes prior to the war and slow growth following it, the share of working-age people increased until the 1970s while the proportion of children and older dependents fell. Demographic factors also help explain why Japan's saving rate remains at a high level while U.S. saving is at all-time low levels. Other factors contributing to the higher level of saving in Japan are the high cost of housing and a tax system biased in favor of saving rather than consumption as in the United States.

Many economists in both the government and the private sector expect Japan's household saving rate to fall by two to four percentage points during the next 10 to 15 years. According to the life-cycle theory, the aging of Japan's population should lower the saving rate. Furthermore, saving for housing may become less important. The number of available housing units topped the number of households in 1984 for the first time since 1968, and the percentage of owned-occupied houses reached 62.3 percent in 1983 compared to 59.2 percent 10 years earlier.

Since saving behavior is affected by social and cultural changes as well as economic forces, it is difficult to predict the future level of saving. But it is unlikely that changes either in government policy or economic factors will quickly alter Japanese saving habits. Household saving will remain at high levels as long as families continue to feel a strong need for saving.

Japan's high saving rate, therefore, is likely to continue to contribute to its huge trade surplus and to conflicts with its trading partners. It is important for Tokyo to encourage and promote domestic investment in order to absorb surplus saving. Japan's trading partners should also realize that Japan's high saving rate performs an important function by helping to meet capital shortages abroad. In a capital-scarce world, Japan's high level of saving is a valuable resource that should be used to promote economic growth in less-developed countries, as U.S. capital was used to finance reconstruction in Europe following World War II.

For further information, contact Randall S. Jones.

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The views expressed in this report are those of the author and do not necessarily reflect those of the Japan Economic Institute.

Appendix: The Calculation of the U.S. Saving Rate

Gross saving is defined as total income less private and government consumption, while net saving is equal to gross saving less depreciation. Saving can be measured as the difference between total income and current outlays or as the increase in assets less the increase in liabilities. The Federal Reserve Board's Flow of Funds (FOF) measure uses the latter approach while the Department of Commerce's Bureau of Economic Analysis uses the former approach to estimate saving in the National Income and Product Accounts (NIPA). There are major differences in the two measures of saving. In 1983, for example, personal saving as estimated by the FOF was $274.5 billion, or 11.8 percent of disposable income, but according to the NIPA measure, it was only $113.6 billion, or 4.9 percent of disposable income.

Conceptual differences account for about two-thirds of the disparity in the saving estimates. The major difference concerns the treatment of consumer durables, such as cars, furniture and appliances. In the NIPA, all consumer spending is treated as consumption; the FOF classifies purchases of consumer durables as saving. A further difference is the classification of government life insurance and retirement funds, which affects the distribution of saving between the public and private sectors.

Statistical discrepancy, which accounts for much of the difference in the two measures, reflects the fact that each measure calculates saving as a residual. Any error in the underlying series, therefore, affects the estimate. The sizable statistical discrepancy in the international balance of payments between the balances in the current account and the capital account is responsible for part of the difference in the two measures of saving. Net foreign investment is equivalent to net flows of foreign and domestic assets in the FOF measure and to the current account balance in the NIPA. The discepancy between NIPA and FOF, therefore, could result from an underestimate of net exports (making the NIPA estimate too low) or an underestimate of capital inflows (making the FOF estimate too high). The fact that most economists believe that the capital account is the likely source of the statistical discrepancy in the balance of payments suggests that the NIFA measure is preferable.

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